

Express Mail:  
Date Deposited:

EV 373444808 US  
September 7, 2004



Page 1 of 5

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete If Known	
Application Number	10/808,648
Filing Date	03/25/2004
First Named Inventor	Jody A. Swenson
Group Art Unit	Unknown- 2858
Examiner Name	Unknown A. DEB
Attorney Docket Number	5837.041

### U. S. PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	U.S. PATENT NUMBER Number	Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AD	AA	1919215		Gunn	07-25-1933	
AD	AB	2449068		Gunn	09-14-1948	
AD	AC	2587156		Havenhill et al.	02-26-1952	
AD	AD	2815483		Kaufman	12-03-1957	
AD	AE	2820947		Gunn	01-21-1958	
AD	AF	3121196		Kasemir	02-11-1964	
AD	AG	3188472		Whipple, Jr.	06-08-1965	
AD	AH	3273066		Ruhnke	09-13-1966	
AD	AI	3344344		Wales, Jr.	09-26-1967	
AD	AJ	3370225		Winder	02-20-1968	
AD	AK	3449668		Blackwell, et al.	06-10-1969	
AD	AL	3458805		Kasemir	07-29-1969	
AD	AM	3519927		Holt	07-07-1970	
AD	AN	3564529		Kaufman, et al.	02-16-1971	
AD	AO	3586973		Lawton, et al.	06-22-1971	
AD	AP	3611127		Vosteen	10-05-1971	
AD	AQ	3662250		PICCONI et al. <del>Thomas, et al.</del>	05-09-1972	
AD	AR	3727125		Mourier	04-10-1973	
AD	AS	3820095		Wojtasinski, et al.	06-25-1974	

## U. S. PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	<u>U.S. PATENT NUMBER</u> Number	Kind Code <sup>1</sup> (If known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AD	AT	3824454		Stern, et al.	07-16-1974	
AD	AU	3846700		Sasaki, et al.	11-05-1974	
AD	AV	3868074		Hill	02-25-1975	
AD	AW	3916605		<del>FEW, JR.</del> RICHARDS et al	<del>10-26-1975</del> 11-4-1975	
AD	AX	3917996		Wagner, et al.	11-04-1975	
AD	AY	3919636		Few	11-11-1975	
AD	AZ	3921087		Vosteen	11-18-1975	
AD	BA	3925726		Few	12-09-1975	
AD	BB	3935532		Shuey, et al.	01-27-1976	
AD	BC	4054835		Los, et al.	10-18-1977	
AD	BD	4095221		Slocum, Jr.	06-13-1978	
AD	BE	4101825		Truax	07-18-1978	
AD	BF	4199715		Hill	04-22-1980	
AD	BG	4277745		Deno	07-07-1981	
AD	BH	4330749		Eda, et al.	05-18-1982	
AD	BI	4370616		Williams	01-25-1983	
AD	BJ	4422037		Coleman	12-20-1983	
AD	BK	4424481		Laroche, et al.	01-03-1984	
AD	BL	4433297		Buchheit	02-21-1984	
AD	BM	4506211		Coleman	03-19-1985	
AD	BN	4553099		Kasahara, et al.	11-12-1985	
AD	BO	4642559		Slough	02-10-1987	
AD	BP	4672305		Coleman	06-09-1987	
AD	BQ	4683436		Suzuki	07-28-1987	
AD	BR	4803421		Ostrander	02-07-1989	
AD	BS	4836581		<del>Peterson, Jr.</del> GUILLOTEAU	<del>06-13-1989</del> 01-06-1989	
AD	BT	5315232		Stewart	05-24-1994	

# FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	†
		Office 3	Number 4	Kind Code5 (if known)				
		None						

U.S. and Foreign: <sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard St.3). <sup>4</sup>Form Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard St. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

EXAM INIT.		PATENT DOCUMENTS	
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
	CA	<del>WILSON, C.T.R.; On a Portable Gold-leaf Electrometer for Low or High Potentials; Cambridge Philosophical Society; January 31, 1906; pp. 184-189; Vol. XIII, Part IV; Cambridge University Press.</del>	
	CB	<del>WILSON, C.T.R.; On the Measurement of the Earth-Air Current and on the Origin of Atmospheric Electricity; Cambridge Philosophical Society; November 5, 1906; pp. 363-382; Vol. XIII, Part VI; Cambridge University Press.</del>	
	CC	<del>SIMPSON, GEORGE C.; Earth-Air Electric Currents; The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science; May, 1910; pp. 715-725; Sixth Series.</del>	
	CD	<del>WILSON, C.T.R.; On Some Determinations of the Sign and Magnitude of Electric Discharges in Lightning Flashes; Proceedings of the Royal Society; Mathematical and Physical Sciences; June 3, 1916; pp. 555-574; Ser. A, Vol. 92, No. A 644.</del>	
	CE	<del>WILSON, C.T.R.; Investigations on Lightning Discharges and on the Electric Field of Thunderstorms; August 27, 1920; pp. 73-115; Philosophical Transactions of the Royal Society of London; Ser. A, Vol. 221.</del>	
	CF	<del>WHIPPLE, F.J.W.; On the Association of the Diurnal Variation of Electric Potential Gradient in Fine Weather with the Distribution of Thunderstorms Over the Globe; Quarterly Journal of the Royal Meteorological Society; January, 1929; pp. 1-15; Vol. 55, No. 229.</del>	
	CG	<del>WHIPPLE, F.J.W.; Potential Gradient and Atmospheric Pollution: The Influence of "Summer Time"; August 6, 1929; pp. 351-362.</del>	
	CH	<del>WILSON, C.T.R.; Some Thundercloud Problems; Journal of the Franklin Institute; July, 1929; pp. 1-12; Vol. 208, No. 1; Lancaster Press, Inc.</del>	
	CI	<del>KIRKPATRICK, PAUL and MIYAKE, IWAO; A Generating Voltmeter for the Measurement of High Potentials; The Review of Scientific Instruments; January, 1932; pp. 1-8; Vol. 3, No. 1.</del>	
	CJ	<del>KIRKPATRICK, PAUL; Further Development of the Rotary Voltmeter; April 4, 1932; pp. 430-438.</del>	
	CK	<del>GUNN, ROSS; Principles of a New Portable Electrometer; April 15, 1932; pp. 307-313; Vol. 40.</del>	
	CL	<del>HARNWELL, G.P. and VAN VOORHIS, S.N.; An Electrostatic Generating Voltmeter; R.S.I.; October, 1933; pp. 540-541.</del>	
	CM	<del>HENDERSON, JOSEPH E., GOSS, WILBUR H., ROSE, JOHN E.; The Use of the Rotary Voltmeter for Measurements up to 830 kilovolts; R.S.I.; March 1935; pp. 63-65; Vol. 6.</del>	
	CN	<del>GUNN, ROSS; The Electricity of Rain and Thunderstorms; Terrestrial Magnetism &amp; Atmospheric Electricity; 1935; pp. 79-106; Vol. 40, No. 1.</del>	
	CO	<del>VAN ATTA, L.C., NORTHROP, D.L., VAN ATTA, C.M. and VAN DE GRAAFF, R.J.; The Design, Operation, and Performance of the Round Hill Electrostatic Generator; Physical Review; May 15, 1936; pp. 761-776; Vol. 49.</del>	

EXAM INIT.		<p style="text-align: center;"><b>PATENT DOCUMENTS</b></p> <p>Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published</p>
	CP	MACKY, W.A.; The Measurement of Normal Atmospheric Electric Potential Gradients Using a Valve Electrometer; Terrestrial Magnetism and Atmospheric Electricity; March, 1937; pp. 77-86; Vol 42, No. 1.
	CQ	WORKMAN, E.J. and HOLZER, R.E.; A Recording Generating Voltmeter for the Study of Atmospheric Electricity; R.S.I.; May, 1939; pp. 160-163; Vol 10.
	CR	GUNN, ROSS; The Electrical Charge on Precipitation at Various Altitudes and its Relation to Thunderstorms; Physical Review; February 1, 1947; pp. 181-186; Vol. 71, No. 3.
	CS	WADDEL, R.C.; An Electric Field Meter for Use on Airplanes; The Review of Scientific Instruments; January, 1948; pp. 31-35; Vol. 19, No. 1.
	CT	SIMPSON, G.C.; Atmospheric Electricity During Disturbed Weather; Terrestrial Magnetism and Atmospheric Electricity; March, 1948; pp. 27-33; Vol. 53, No. 1.
	CU	MALAN, D.J., and SCHONLAND, B.F.J.; An Electrostatic Fluxmeter of Short Response-time for use in Studies of Transient Field-Changes; The Proceedings of The Physical Society, Section B; June 1, 1950; pp. 402-408; Vol. 63, Part 6, No. 366B.
	CV	CHALMERS, J. ALAN; Negative Electric Field in Mist and Fog; Journal of Atmospheric and Terrestrial Physics; 1952; pp. 155-159; Vol. 2; Pergamon Press Ltd., London.
	CW	CROSS, A.S.; Two Electrostatic Field Meters; British Journal of Applied Physics; March, 1953; pp. S 47-S 50; Supplement No. 2.
	CX	CHALMERS, J. ALAN; The Agrimeter for Continuous Recording of the Atmospheric Electric Field; Journal of Atmospheric and Terrestrial Physics; 1953; pp. 124-128; Vol. 4; Pergamon Press Ltd., London.
	CY	SMITH, L.G.; An Electric Field Meter with Extended Frequency Range; The Review of Scientific Instruments; May, 1954; pp. 510-513; Vol. 25, No. 5.
	CZ	MAPLESON, W.W. and WHITLOCK, W.S.; Apparatus for the Accurate and Continuous Measurement of the Earth's Electric Field; Journal of Atmospheric and Terrestrial Physics; 1955; pp. 61-72; Vol. 7; Pergamon Press Ltd., London.
	DA	WHITLOCK, W.S. and CHALMERS, J. ALAN; Short Period Variations in the Atmospheric Electric Potential Gradient; 1956; pp. 325-336.
	DB	CLARK, JOHN F.; Airborne Measurement of Atmospheric Potential Gradient; Journal of Geophysical Research; December, 1957; pp. 617-628; Vol. 62, No. 4.
	DC	JONES, O.C., MADDEVER, R.S. and SANDERS, J.H.; Radiosonde Measurement of Vertical Electrical Field and Polar Conductivity; Journal of Scientific Instruments; January, 1959; pp. 24-28; Vol 36.
	DD	VONNEGUT, B., MOORE, C.B. and HARRIS, C.K.; Agrimeter for Measurement of Atmospheric Electrical Potential Gradient; Journal of Meteorology; 1961; pp. 812-815; Vol. 18.
	DE	COLLIN, H.L.; Sign Discrimination in Field Mills; Journal of Atmospheric and Terrestrial Physics; August, 1962; pp. 743-745; Vol. 24; Pergamon Press, London.
	DF	WINN, WILLIAM P., and BYERLEY, L.G., III; Electric Field Growth in Thunderclouds; Quarterly Journal of the Royal Meteorological Society; October, 1975; pp. 979-994; Vol. 101, No. 430.
	DG	THOMPSON, JAMES E., KRISTIANSEN, M., and HAGLER, MARION O.; Optical Measurement of High Electric and Magnetic Field; IEEE Transactions on Instrumentation and Measurement; March, 1976; pp. 1-7; Vol. 25, No. 1.
	DH	TOLAND, R.B. and VONNEGUT, B.; Measurement of Maximum Electric Field Intensities Over Water During Thunderstorms; Journal of Geophysical Research; January 20, 1977; pp. 438-440; Vol 82, No. 3.
	DI	CUMMINGS, MARY R., NICHOLSON, HOWARD W., JR. and PORTO, DEBORAH R.; Measurement of the Atmospheric Electrostatic Potential Gradient Near Sea Level; American Journal of Physics; December, 1981; pp. 1176-1180, Vol. 49, No. 12.
	DJ	VOSTEEN, JAMES R. and VOSTEEN, WILLIAM E.; The Feedback Vibrating Capacitor Fieldmeter; 1991; pp. 103.1 - 103.13.
	DK	MALAN, D.J.; Experimental Methods of Measuring the Potential Gradients of Thunderclouds; Physics of Lightning; pp. 37-104; The English Universities Press, Ltd., London.

EXAM INIT.	PATENT DOCUMENTS	
	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
DL	<del>GOTO, MIYOJI; A Newly Designed Differential Electrometer and its Application to the Simultaneous Measurement of Air Earth Current and Potential Gradient; pp. 22-23.</del>	
DM	<del>WILSON, C.T.R.; On the Ionisation of Atmospheric Air; 1901; pp. 151-161.</del>	
DN	<del>RUST, W. DAVID and MACGORMAN, DONALD R.; Techniques for Measuring Electrical Parameters of Thunderstorms; Instruments and Techniques for Thunderstorm Observation and Analysis; pp. 91-244.</del>	
DO	<del>NELSON, B.N.; MENZEL, C., and DIGIUSEPPE, T.G.; A Fiber-Optic Electric Field Sensor for Lightning Research.</del>	
DP	<del>Mission Instruments Co.; Presents the EFS 1000 Field Mill.</del>	
DQ	<del>Lightning Detector Type VSL 1.</del>	
DR	<del>Atmospheric Research Systems, Inc.; Electric Field Mill.</del>	
DS	<del>Atmospheric Research Systems, Inc.; Electric Field Mill Network.</del>	
DT	<del>Monroe Electronics, Inc.; Reference Supply/Pulse Generator; Model 241.</del>	
Non Patent Documents: <sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.		
Examiner Signature: <u>A. D. 6</u>		Date Considered: <u>10/17/2005</u>
EXAMINER: Initial if citation considered, whether or not citation is in conformance and not considered. Include copy of this form with next communication to applicant. **Place of Publication refers to name of publication in which the information was published.		